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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/489,669      | 01/24/2000  | Branko Kovacevic     | 0100.9901410        | 6121             |

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[REDACTED] EXAMINER

HARRIS, CYNTHIA R

| ART UNIT | PAPER NUMBER |
|----------|--------------|
| 2133     |              |

DATE MAILED: 07/03/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                 |                               |  |
|------------------------------|-----------------|-------------------------------|--|
| <b>Office Action Summary</b> | Application No. | Applicant(s)                  |  |
|                              | 09/489,669      | KOVACEVIC ET AL.<br><i>He</i> |  |
| Examiner                     | Art Unit        |                               |  |
| Cynthia R. Harris            | 2133            |                               |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                  2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-45 is/are rejected.
- 7) Claim(s) 38,40,41 and 43 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 24 January 2000 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on \_\_\_\_\_ is: a) approved b) disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All
  - b) Some \*
  - c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
  - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ . |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)           | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ . | 6) <input type="checkbox"/> Other: _____                                     |

## **DETAILED ACTION**

Claims 1-45 are presented for examination.

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A method and system for handling errors in a system for receiving packet stream data (or MPEG data).

The abstract of the disclosure is objected to because the phrases "detection an/or handling" and "capable of as being" in the last sentence are not coherent. Correction is required. See MPEP § 608.01(b).

The disclosure is objected to because of the following informalities: Line 15 page 9 "an" should be "and", line 14 page 12, "an" should be "a". The specification is replete with terms which are not clear, or are grammatically incorrect. The specification should be proofread carefully in order to comply with 35 U.S.C. 112, first paragraph.

Appropriate correction is required.

### ***Claim Objections***

Claim 38 is objected to because of the following informalities: Claim 38 recites the limitation "the MPEG video decoder" in lines 1 and 2. There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

Claims 40, 41, and 43 are objected to because of the following informalities: Claim 40 can not depend upon claim 40 and claim 41 cannot depend on claim 41. Claim 43 is dependent on claim 41 and inherits the problem. For the purpose of examination, the examiner will assume that claims 40, 41, and 43 are dependent on claim 32. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 7, 12, 15, 20, and 25, are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The dependent claims 2-6, 8-11, 13, 14, 16-19, 21-24, and 26-31 inherit the problems of the independent claims. The term "enabling an error condition" is not clearly defined in the specification. However, on page 89 of the specification, enabling an error recognition feature is described and also shown in Figure 51. For the purpose of examination the examiner will assume that the applicant intended to enable error detection.

Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In lines 3 and 4 of claim 12, the phrase "asserted error in hardware indicator in a packet as a recognized error" is

unclear. For the purpose of examination the examiner will assume that applicant is claiming that there is an indication of an error being detected by the hardware.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-11, 20, 21, and 25-31 are rejected under 35 U.S.C. 102(b) as being anticipated by Nuber et al. U. S. Patent No. 5,742,623.**

As per claim 1, Nuber et al. teach a method and apparatus for communicating data via a packetized data stream, and the detection of and recovery from errors in high rate digital data streams including an indication of scrambling within the packet (column 1 lines 14-20, column 2 lines 5-22, and column 16 lines 1-8).

As per claims 2 and 3, Nuber et al. teach transport stream packets and elementary stream packets (column 1 lines 40-67, and column 7 lines 39-59).

As per claims 4 and 6, Nuber et al. teach ignoring a packet found to have an encryption error (column 6 lines 43-51).

As per claim 5, Nuber et al. teach using fill bits to compensate for missing data and therefore the dropped or lost packet is ignored (column 13 lines 30-36).

As per claim 7, Nuber et al. teach using flags when an error condition is detected (column 13 lines 37-65, column 18 line 64 through column 19 line 2).

As per claims 8-11, Nuber et al. teach identifying whether a packet is scrambled by header information in elementary stream data and transport stream data (column 1 line 40 through column 2 line 15, column 7 lines 39-52, and column 16 lines 1-8).

As per claims 20 and 21, Nuber et al teach a method and apparatus for communicating data via a packetized data stream, and the detection of and recovery from errors in high rate digital data streams which is capable of detecting continuity errors by using a counter (column 4 line 53 through column 5 line 6).

As per claims 25-31, Nuber et al. teach that the syntax and semantics of the MPEG -2 transport stream are defined in the International Organization for Standardization, ISO/IEC 13818-1. Nuber et al also teach using packetized elementary streams of video data which are transmitted according to the standard and error detection is provided for the syntax errors including fixed bit patterns, value ranges, previous packet numbering or sequencing, and non repetition of packets(column 1 lines 55-63, column 9 line 21 through column 12 line 42).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

**Claims 12-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuber et al. U. S. Patent No. 5,742,623 in view of Bock et al. U.S. Patent No. 5,948,119.**

As per claim 12, Nuber et al. teach a method and apparatus for communicating data via a packetized data stream, and the detection of and recovery from errors in high rate digital data streams including an indication of scrambling within the packet (column 1 lines 14-20, column 2 lines 5-22, and column 16 lines 1-8). Not explicitly disclosed is that the hardware is capable of recognizing the error condition.

However in an analogous art, Bock et al. discloses a method and system for detecting errors in transmitted packetized data, in which the hardware can be designed to detect the errors in the packets (column 9 lines 16-45, Figure 5, column 19 line 18 through column 20 line 14, and figure 13). Therefore it would have been obvious to a person having ordinary skill in the art at the time this invention was made to have used the hardware as described by Bock et al with the method and system taught by Nuber et al. This would have been obvious because one of ordinary skill in the art would have known that the hardware or software required to detect these error conditions are interchangeable as suggested by Bock et al. (column 9 lines 16-23).

As per claims 13 and 14, Nuber et al. teach transport stream packets and elementary stream packets (column 1 lines 40-67, and column 7 lines 39-59).

As per claim 15, Nuber et al. teach using flags when an error condition is detected (column 13 lines 37-65, column 18 line 64 through column 19 line 2).

As per claim 16 and 17, Bock et al. teach sending an error code to a video decoder which is superimposed onto the video signal (column 13 line 51 through column 15 line 32, Figure 9).

As per claims 18 and 19, Nuber et al. teach recording errors and that the error correction units have user settable registers (column 14 lines 23-32 and column 26 line 48 through column 27 line 32).

**Claims 22-24 and 32-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nuber et al. U. S. Patent No. 5,742,623 in view of Galbi U.S. Patent No. 5,768,292.**

As per claims 22-24, Nuber et al teach a method and apparatus for communicating data via a packetized data stream, and the detection of and recovery from errors in high rate digital data streams which is capable of detecting continuity errors by using a counter (column 4 line 53 through column 5 line 6). Not explicitly disclosed is the inputs received from external devices.

However, in an analogous art Galbi teaches in response to an error signal from an external source of an MPEG audio data stream, an MPEG audio decoder replaces errors in the audio data stream with an error code which is a bit combination rarely found in MPEG audio data frames, and then temporarily enables error handling. The audio data stream containing error codes can be saved or buffered in the decoder (column 2 lines 41-54). During audio decoding with error handling enabled, the decoder checks the audio data for the bit combination equaling the error code and replaces the bit combination with reconstructed data. Therefore it would have been obvious to a person having ordinary skill in the art to have used the external signals taught by Galbi with the

system of error detection in MPEG data streams taught by Nuber et al. This would have been obvious because a person having ordinary skill in the art would have known that external devices are typically used with MPEG audio/video decoding systems as disclosed by Galbi (column 1 line 60 through column 2 line3).

As per claims 32-45, Nuber et al. teach a method and apparatus for communicating data via a packetized data stream which can be packetized elementary streams or transport packets of MPEG data, and the detection of and recovery from errors in high rate digital data streams which is capable of detecting continuity errors by using a counter and other syntax errors in the packet (column 4 line 53 through column 5 line 6, column 1 lines 55-63, column 9 line 21 through column 12 line 42). Galbi teaches a method for decoding a digital data stream containing an error, including the steps of: transmitting a digital data stream from a data source to a decoder; asserting an error signal from the data source to the decoder when the data source detects an error; replacing a portion of data in a digital data stream with an error code when the error signal and the portion of data are received by the decoder; asserting a flag signal in the decoder to enable replacing of bit combinations which are in the data stream and equal to the error code; changing the data stream by replacing a bit combination which is in the data stream and equal to the error code; and decoding the changed data stream (column 2 lines 5-54, figures1 and figure 7-all, column 35 lines 2-18).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent No. 5,703,887      Heegard et al.

This patent teaches a method and apparatus for achieving synchronization and detecting errors in a data stream such as an MPEG-2 transport packet stream, the MPEG sync word is removed and replaced with a parity code that is used at the decoder for both synchronization and error detection. A syndrome calculator in the decoder can be implemented using a unique one bit in, one bit out FIR filter. Codewords used to generate the parity code can be provided by a linear block code that is a dual of a shortened cyclic code.

U.S. Patent No. 5,457,701      Wasilewski et al.

This patent teaches a method for providing packet error indication in a multi-hop communications system in which packets of data are transmitted from a transmission site to a reception site via a plurality of successive physical links.

U.S. Patent No. 6,336,200      Wolfgang

This patent teaches a method that verifies whether original packets have been correctly reconstructed, and if not, locates an erroneously marked packet so that it may be removed from the reconstruction process.

U.S. Patent No. 5,778,191

Levine et al.

This patent teaches a method and device for error control of a video compressed sequence in which error protection for both random and burst channel errors is provided. The error control syntax applies a fixed length packet synchronization system to variable length coded compressed video data, which provides the capability to limit error propagation within the decoded video bit stream.

U.S. Patent No. 6,226,769

Schuster et al.

This patent teaches a forward error correction code scheme for transmission of real-time media signals, such as digitized voice, video or audio, in a packet switched network.

EP No. 1014730A1

Wan et al.

This patent teaches a system and method of forward error correction in MPEG-2 transport systems.

*"Error Concealment for MPEG Video Transmissions"* Jian Feng; Kwok-Tung Lo; Mehrpour, H. Consumer Electronics, IEEE Transactions on , Volume: 43 Issue: 2, May 1997 Page(s): 183 -187

This document teaches an error compensation method for recovering lost video data when the loss rate is high.

Bolot, Jean-Chrysostome et al., "Adaptive Error Control for Packet Video in the Internet", Proceedings of IEEE International Conference on Image Processing, Sep., 1996.

This document teaches a method for dealing with video loss rates that are high over the internet by using forward error correction and matching the bandwidth.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia R. Harris whose telephone number is 703-308-2391. The examiner can normally be reached on Monday - Thursday 6:30 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Albert Decady can be reached on 703-305-9595. The fax phone numbers for the organization where this application or proceeding is assigned are 703-746-7239 for regular communications and 703-746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Cynthia R. Harris  
Examiner  
Art Unit 2133

CRH *CRH*  
June 26, 2002

  
ALBERT DECADY  
SUPERVISORY PATENT EXAMINER  
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